User's Manual

ColorNavigator™ NX

Color Management Software

Ver. 1.1

Important

Please read this User's Manual carefully to familiarize yourself with safe and effective usage.

- **The latest software and User's Manual are available for download from our web site:**
  http://www.eizoglobal.com

EIZO®

About This Manual

This manual describes the features, installation, and usage of the Color Management Software “ColorNavigator NX”.

Precautions on Use

ColorNavigator NX is software suitable for use by administrators in environments where software for adjusting a monitor will not or cannot be installed on the creator’s machine such as in the video editing and post production market.
When using ColorEdge for creative work such as photography or printing, please use “ColorNavigator.”

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Chapter 1 Introduction

1-1. Features

- Directly save information to the monitor.
  - The adjustment result is saved for each color mode making it easy to switch the display between color modes.
  - Adjustments and information are sustained even if the monitor is connected to a different computer.
  - This is suitable if not installing software for adjusting the monitor on the creator's computer, or in an environment where the software cannot be installed.
- Color Mode Management
  - Allows switching between color mode types (Calibration Mode and Standard Mode). *1

  *1 Except for CG245W, CG246, CG275W, CG276, CX240, and CX270.
  - Color modes can be renamed.
  - Color modes that are not used can be disabled.

Note : About color mode types

- The following two types of color modes are available.
  - Calibration Mode : This color mode is for adjusting the monitor display using software such as ColorNavigator NX.
  - Standard Mode : This color mode refers to modes other than Calibration Mode. The operation buttons on the front of the monitor are used to adjust the monitor display without the need for software such as ColorNavigator NX.

- Allows you to adjust the ColorEdge series monitor easily.
  - A different set of adjustment targets can be set to each Calibration Mode, and each set can be separately adjusted.
  - Color modes other than Calibration Mode can be adjusted without using the monitor's control buttons.
  - A color profile that contains the adjusted status of the monitor is created and set to the system.
- Allows you to specify the target values for the brightness, white point, gamma, black level, and color gamut of the monitor precisely.
- The built-in calibration sensor and built-in correction sensor are available.
  - The schedule for SelfCalibration and SelfCorrection can be configured.
  - Correlates the measurement result from the built-in calibration sensor with the measurement results from other measurement devices.
- Supports ColorNavigator Network.
  - The monitor administrator can set monitor information targeted for management and retrieve and manage information of individual monitors using a Web browser.

Note : About ColorNavigator Network

- ColorNavigator Network is an administrative support tool that allows you to access a server from a network computer, using a web browser, in order to centrally manage the settings and asset information of the monitors connected to the computers with ColorNavigator NX installed.
- For more information on ColorNavigator Network, refer to our web site (http://www.eizoglobal.com).

- Asset management information registration
  - Unique asset management information can be registered to the monitor.
- System-resident function
  - The color mode of the monitor can be changed without displaying the main window.

1-2. About ColorNavigator License

For some types of monitors, the ColorNavigator license may need to be purchased and registered to the monitor for use of this software. If the license has not been registered, the software will not start.
For the purchase of the license, contact your local EIZO representative.

● How to Check License Registration

The license registration status can be checked using “Monitor Info” on the monitor. For details, see the User’s Manual of the monitor.

- If “ColorNavigator License” in the monitor information screen is “Not Registered”, the ColorNavigator license must be purchased and registered to the monitor.
- If “ColorNavigator License” in the monitor information screen is “Registered”, there is no need to purchase the ColorNavigator license.

1-3. Differences Between ColorNavigator

ColorNavigator NX cannot be installed simultaneously with ColorNavigator. Select the software according to your requirements. ColorNavigator NX and ColorNavigator differ by the following points.

● Monitor adjustment functions

√:supported -:not supported

Function	Details	ColorNavigator NX	ColorNavigator
Adjustment Calibration Mode	Easily adjust the monitor to set target values using a measurement device.	√*1	√*2
Adjustment Standard Mode	Adjust brightness, white point, gamma, and color gamut using the software.	√	-
Create a color profile	Generate and register an ICC profile (ColorSync profile) to the system to incorporate the monitor into the color management work flow.	√*3	√
Manual adjustment by viewing the screen	Finely adjust brightness, white point, and gamma by watching the monitor display.	-	√
Monitor display status validation	Measure the display status of the monitor and check the difference from the optimum value.	-	√

*1 All Calibration Modes can be adjusted.
*2 One Calibration Mode can be adjusted per input signal.
*3 The creation timing and details of profiles cannot be changed.

● Generating Adjustment Targets

√:supported -:not supported

Function	Details	ColorNavigator NX	ColorNavigator
Adjustment target generation based on color profiles	Adjust the monitor using target values of a profile from a different monitor.	-	√
Adjustment target generation based on measurement results	Adjust the monitor by measuring printed paper and the monitor using an external measurement device, and then setting the measurement results as the target value.	-	√

● Managing Monitors

√:supported -:not supported

Function	Details	ColorNavigator NX	ColorNavigator
Import and export of monitor settings	Share monitor settings with other monitors.	√	-
Renaming color modes	Change the names of color modes.	√	-
Disable modes	Disable color modes that are not used.	√	-
Switching between Standard Mode and Calibration Mode	Standard Mode and Calibration Mode can be switched between.	√	-
Support ColorNavigator Network	The monitor administrator can set monitor information targeted for management and retrieve and manage information of individual monitors.	√	-
Asset management	Register unique asset management information to the monitor.	√	-

*1 Except for CG245W, CG246, CG275W, CG276, CX240, and CX270.

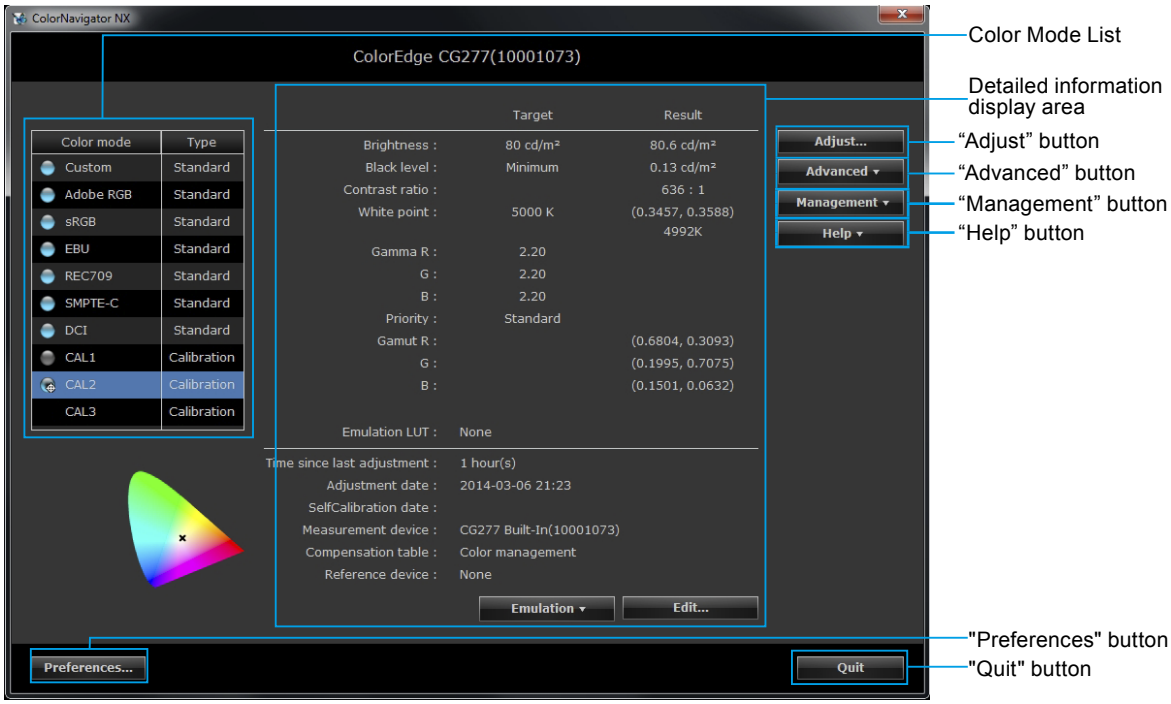
● Advanced Functions

√:supported -:not supported

Function	Details	ColorNavigator NX	ColorNavigator
Tablet device emulation	Measure and emulate the color characteristics of tablet devices on the monitor.	-	√
Emulation based on the color profile	Apply and emulate color profiles of various machines such as printers, printing paper, and other monitors on the monitor.	-	√
Light booth adjustment	The brightness or illuminance of the light booth can be adjusted.	-	√

1-4. Main window

Select a function on the main window which is displayed when the software is started.



● Color Mode List

The color modes available on the monitor you are using are displayed. The color mode type is also displayed (Calibration or Standard), (Except for CG245W, CG246, CG275W, CG276, CX240, and CX270). Right-click to enable, disable, or rename a mode.

About Marks

The marks in the color mode list show the status of each mode.

● Calibration Mode

The mark displayed for a Calibration Mode indicates whether adjustment is necessary, whether it is currently selected as the color mode, and whether it is specified as the target for SelfCalibration or SelfCorrection.

- When the mode is enabled, a mark is displayed at the color mode.
- The color of the mark indicates whether adjustment is necessary.
  - A blue mark indicates that adjustment is finished and that a certain time has not elapsed yet.
  - A red mark indicates that a certain time has elapsed since adjustment was finished.
  - A grey mark indicates that it has never been adjusted.
- A black dot is displayed at the center of a currently selected color mode.
- A target mark is added to a mode selected as the SelfCalibration or SelfCorrection target.

Mark	Adjustment	Color Mode	Adjusted status	SelfCalibration / SelfCorrection settings
	Not necessary	Selected	Adjusted	Disable
	Not necessary	Not selected	Adjusted	Disable
	Not necessary	Selected	Adjusted	Enable
	Not necessary	Not selected	Adjusted	Enable
	Necessary	Selected	Adjusted	Disable
	Necessary	Not selected	Adjusted	Disable
	Necessary	Selected	Adjusted	Enable
	Necessary	Not selected	Adjusted	Enable
	Necessary	Selected	Not adjusted	-
	Necessary	Not selected	Not adjusted	-
None	-	Disable	-	-

● Standard Mode

- The mark is blue.
- A black dot is displayed at the center of a currently selected color mode.

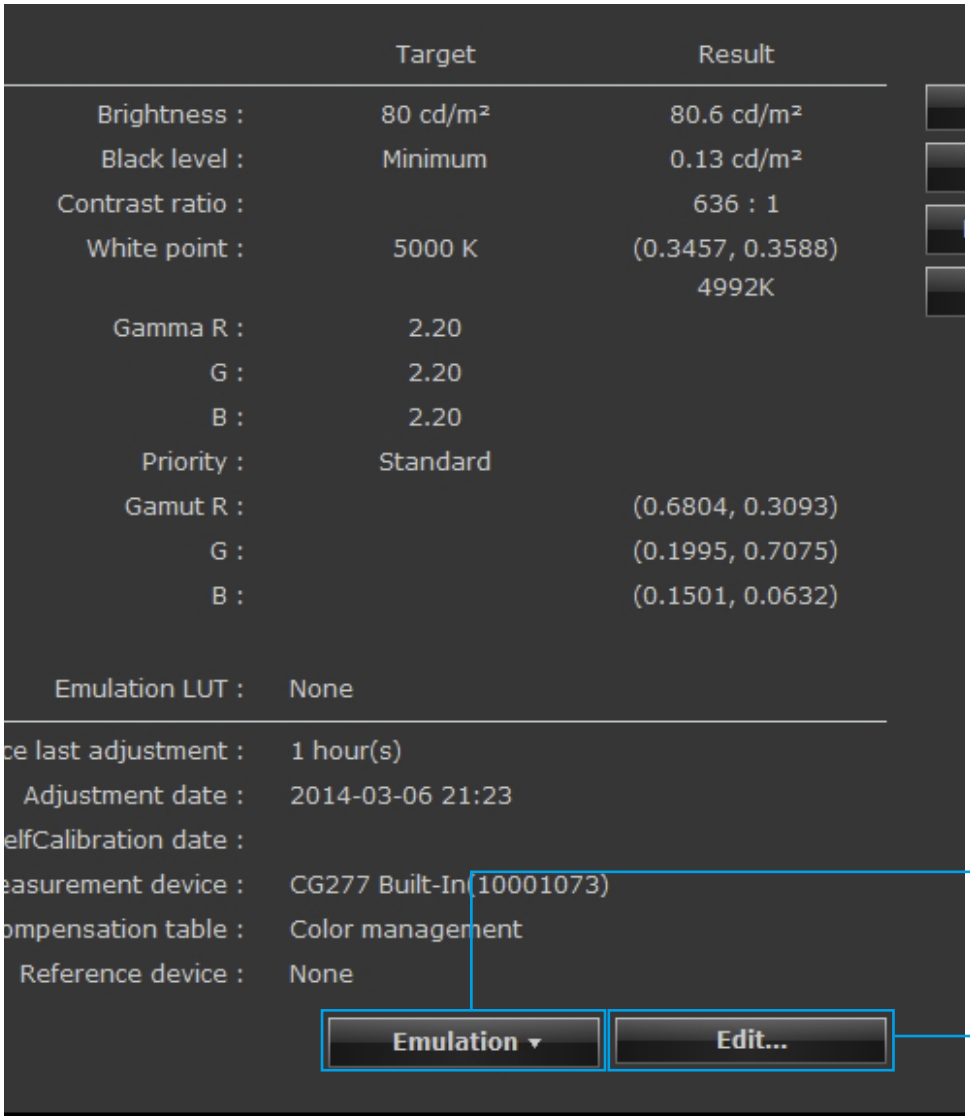
Mark	Color Mode
	Selected
	Not selected
None	Disable

● Detailed Display Area

The displayed contents differ according to the selected color mode.

● Calibration Mode

The set adjustment targets and the adjustment results are displayed. You can edit adjustment targets by clicking “Edit”.

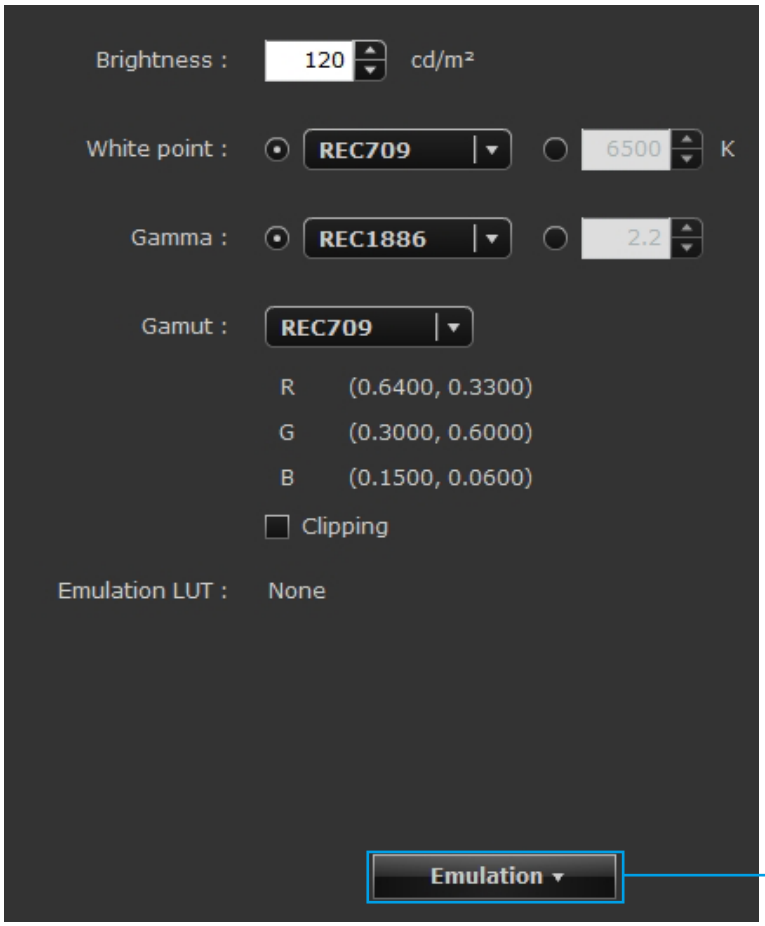


Allows you to create the emulation data of the motion picture film (page 27).

Edit an adjustment target.

Standard Mode

You can configure the items that can be set using the monitor's control buttons.



Allows you to create the emulation data of the motion picture film (page 27).

● “Adjust” button

Proceed monitor adjustment (see “3-2. Adjusting Calibration Mode” (page 16)).

● “Advanced” button

Item	Overview	Reference
Importing Monitor Setting	Import settings of a different monitor.	“Import” (page 39)
Exporting Monitor Setting	Export monitor settings to a file and share with other monitors.	“Export” (page 39)
Test pattern	Shows the test pattern.	“3-6. Displaying Test Patterns” (page 32)
SelfCalibration / SelfCorrection settings	Set SelfCalibration / SelfCorrection.	“To set SelfCalibration / SelfCorrection” (page 28)
Sensor correlation*1	Allows you to correlate the built-in calibration sensor with the reference measurement device.	“Correlate with the Reference Measurement Device” (page 33)
Standard ModeCalibration	Allows you to update the monitor gamut.	“Adjusting Using a Measurement Device” (page 26)

*1 Only monitors of the CG series are displayed.

● “Management” button

Item	Overview	Reference
Asset	Register unique asset management information to the monitor.	“Setting the Asset Information” (page 41)
ColorNavigator Network	Configure ColorNavigator Network settings	“Configuring ColorNavigator Network Settings” (page 42)

● "Help" button

Item	Overview	Reference
User’s manual	Shows the User’s Manual (this document).	“6-1. Showing the User’s Manual” (page 47)
Monitor information	Shows the monitor information.	“6-2. Showing Monitor Information” (page 47)
Quality Improvement Program	Shows the dialog box for participating in the Quality Improvement Program.	“6-3. Participating in the Quality Improvement Program” (page 48)
Version	Show the version information	“6-4. Displaying the Version Information” (page 48)

Chapter 2 Setup

2-1. System Requirements

● Computer

Common

- Windows or Macintosh system that satisfies the Adobe® AIR 3.8 or later system requirements.
- Linux system that satisfies the Adobe® AIR 2.0.4 system requirements.
- Resolution: recommended resolution of the monitor
  About the recommended resolution of the monitor, see the user's manual of the monitor.
- USB port: at least 1 free port is required
  A USB cable is required to connect the monitor to the PC.

OS

Platform	OS	Memory
Windows	Windows 8.1 (32 bit edition)	2GB
	Windows 8.1 (64 bit edition)	2GB
	Windows 8 (32 bit edition)	2GB
	Windows 8 (64 bit edition)	2GB
	Windows 7 Service Pack 1 (32 bit edition)	1GB
	Windows 7 Service Pack 1 (64 bit edition)	2GB
Macintosh	OS X Yosemite (10.10)	2GB
	OS X Mavericks (10.9)	2GB
	OS X Mountain Lion (10.8)	2GB
	Mac OS X 10.7.5	2GB
Linux	Red Hat Enterprise Linux 6 (64 bit edition)	1GB

● Monitor

- EIZO ColorEdge CG series monitor with built-in calibration sensor*1
- EIZO ColorEdge CX series monitor with built-in correction sensor*2

*1 A firmware update may be required for CG246 and CG276.
For more information, refer to our web site http://www.eizoglobal.com.

*2 For some types of monitors, the ColorNavigator license may need to be registered to the monitor.
For more information, see "1-2. About ColorNavigator License" (page 5).

Attention

- EIZO ColorEdge CS series monitors are not supported.

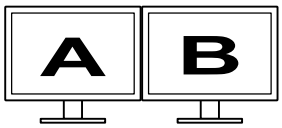
● Measurement device

Measurement Device	Type	Remarks
built-in calibration sensor	Filter	
X-Rite ColorMunki	Spectral	• ColorMunki Display cannot be used. • Linux is not supported. • ColorMunki Smile cannot be used.
X-Rite i1Pro2 / i1Pro / i1Monitor	Spectral	• Whether or not to comply with XRGA can be selected. For more information, see “Chapter 7 Glossary” (page 50). • Linux is not supported for measurement devices that support XRGA.
X-Rite i1Display 3 / Pro	Filter	
Datacolor Spyder3 / EX1	Filter	• Linux is not supported.
Datacolor Spyder4 / EX2		
Datacolor Spyder5 / EX3		
Photo Research PR-655 / PR-680	Spectral	• When the “Display automatically detected device.” check box is unchecked in the measurement device selection window (page 18), this is displayed in the list.
basICColor DISCUS	Filter	• When the “Display automatically detected device.” check box is unchecked in the measurement device selection window (page 18), this is displayed in the list. • Linux is not supported.
Klein K-10	Filter	• When the “Display automatically detected device.” check box is unchecked in the measurement device selection window (page 18), this is displayed in the list.
Konica Minolta CS-1000 / CS-1000A	Spectral	• The driver is not included. Contact the manufacturer. • Linux is not supported.
Konica Minolta CA-210 / CA-310	Filter	• The driver is not included. Contact the manufacturer. • Mac OS X and Linux is not supported
Konica Minolta CS-2000 / CS-2000A	Spectral	
Konica Minolta CS-200	Spectral fitting	

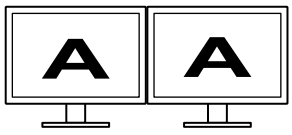
*1 For details of the system requirements and usage of the measurement device, see the user’s manual supplied with the product.

Attention

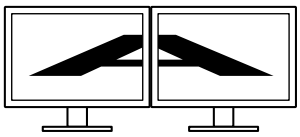
- USB hub may be required if adjusting several monitors in a multiple monitor environment. Also, USB cables are required for monitor adjustment.
- When multiple monitors are connected, each monitor should display an independent screen. Displaying the same screen on each monitor or across multiple monitors prevents adjustment using the ColorNavigator NX. For details of how to change the settings, see the User’s Manual of the graphics board.



Independent screen on each monitor (OK)

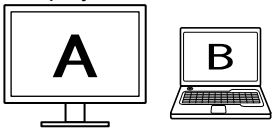


Same screen on each monitor (NG)

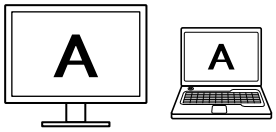


A screen over the multiple monitors (NG)

- When using ColorNavigator NX with a monitor and laptop PC connected, settings for mirroring / duplicating displays must be disabled in OS settings. Adjustment using ColorNavigator NX is not possible if identical screens are displayed on the monitor and laptop PC.



Independent screen on the monitor and laptop PC monitor (OK)



Same screen on the monitor and laptop PC monitor (NG) (Mirroring / duplicating)

2-2. Installing the Software

● Windows

Attention

- A user account with the “Administrator” authority is required.
- Please consult your system administrator for your account.

1. After unzip the downloaded file, click “setup.exe”

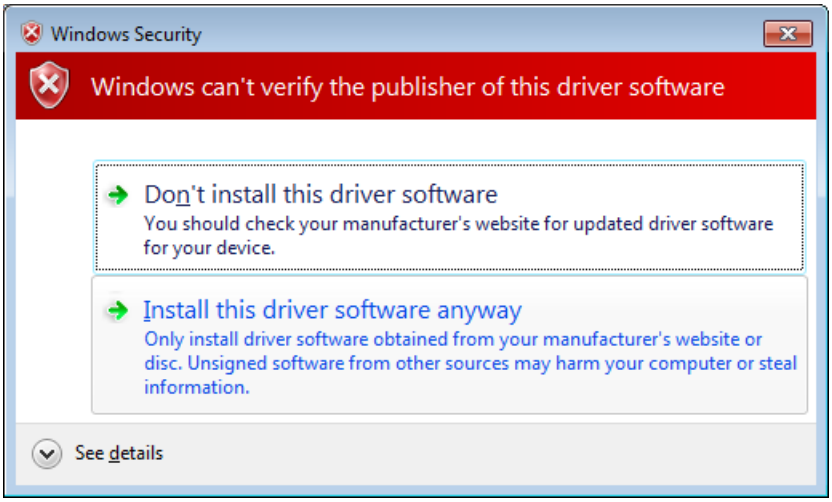
The installer starts up.

2. Install the software

Follow the instructions to install the software.

Note

- The measurement device driver is automatically installed with ColorNavigator NX (except for some models of measurement devices). It is not necessary to install the measurement device supplied with the device.
- The “Windows Security” dialog box may appear several times when you install the software. If this dialog box is displayed, select “Install this driver software anyway”, and proceed with the installation until the dialog box is no longer displayed.



● Macintosh

1. Double-click the downloaded file

The “ColorNavigator NX” icon is displayed on the desktop. Double-click the icon to open the window.

Note

- The “ColorNavigator NX” folder may open automatically depending on your system environment.

2. Double-click“ColorNavigator NX.pkg” icon

The installer starts up.

3. Install the software

Follow the instructions to install the software.

● Linux

Attention

• A user account with the root authority is required.

1. After unarchiving the downloaded file, click “install_nx.sh”

The installer starts up.

2. Install the software

Follow the instructions to install the software.

2-3. Uninstalling the Software

● Windows

Attention

• A user account with the “Administrator” authority is required.
• Please consult your system administrator for your account.

1. Select“Uninstall a program” from“Control Pane”, and click it.

2. Select “ColorNavigator NX” from the list and click “Uninstall”.

● Macintosh

1. Double-click the “/Library/Application Support/EIZO/ColorNavigator NX/ColorNavigator NX Uninstaller” icon.

● Linux

Attention

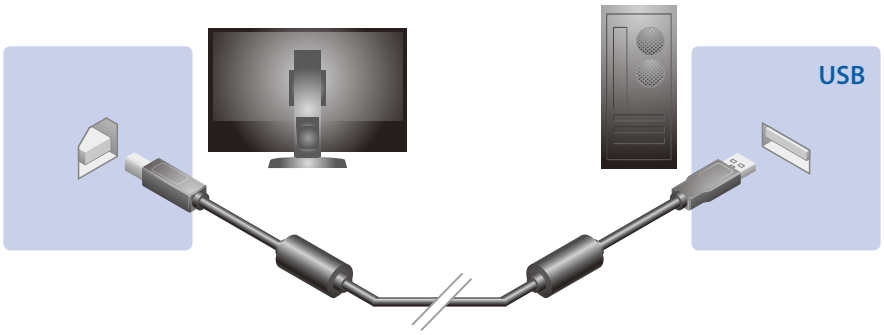
• A user account with the root authority is required.

1. Execute “/var/opt/EIZO/ColorNavigator NX/uninstall_nx.sh.

Chapter 3 Monitor adjustment

3-1. Preparing for Adjustment

1. Connect the USB upstream port of the monitor and the USB downstream port of the PC with a USB cable.



Attention

- When the monitor is equipped with multiple USB upstream ports, use the port that is associated with the input signal to be displayed. For details, refer to the monitor User's Manual.

2. Connect the measurement device to the USB downstream port of the computer or the monitor

Attention

- Some measurement devices may have restrictions on the USB port to connect. For details, see the user's manual of the measurement device.
- If the measurement device is connected after starting up ColorNavigator NX, it may not be detected. Be sure to connect the measurement device before starting up the ColorNavigator NX.

3. Before performing monitor adjustment, turn on both the monitor and the computer (warming up).

Attention

- Before performing SelfCorrection, 60 minutes or more are required to stabilize the monitor.

Note

- To obtain precise adjustment results, the monitor and computer must be sufficiently warmed-up.
- The warming-up time varies depending on the monitor being used. For details on the warming-up time, see the User's Manual of the monitor.

4. Disable the power managing function of the computer

Disable the power management function of the computer so it does not enter power saving mode.

Attention

- Once the monitor goes into the power-save mode, it takes a while for the brightness and color conditions to re-stabilize.

3-2. Adjusting Calibration Mode

● To adjust

Adjust the monitor to the set adjustment targets. To edit the adjustment target, see “To edit the adjustment target” (page 20).

1. Prepare the adjustment according to “3-1. Preparing for Adjustment” (page 15).

2. Start up the software.

Attention

- Do not disconnect USB cables of the monitor or measurement device while running ColorNavigator NX. Doing so may result in system freeze or software malfunction.

● Windows 8.1 / Windows 8

Click the tile displayed as “ColorNavigator NX” in the Start Screen.

● Windows 7

Click “Start” - “All Programs” - “EIZO” - “ColorNavigator NX” - “ColorNavigator NX” (or double-click the “ColorNavigator NX” shortcut icon on the desktop).

● Macintosh

Double-click the “ColorNavigator NX” icon in the “Application” folder

● Linux

Select the “ColorNavigator NX” on the “Application” menu.

Note

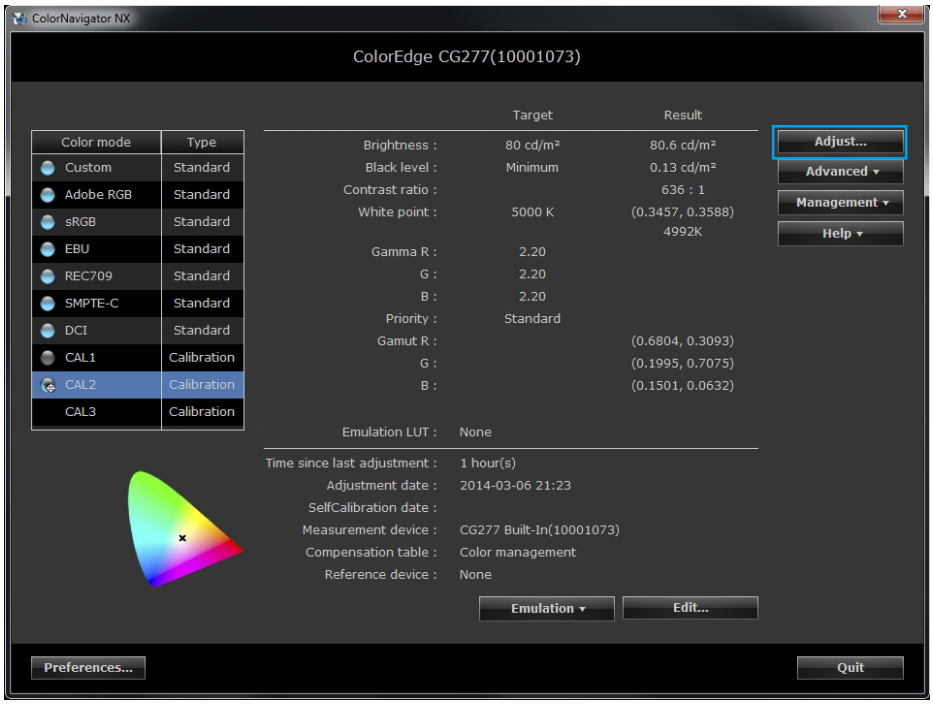
- At the initial startup of ColorNavigator NX, a dialog box asking for your participation in the “Quality Improvement Program” will be displayed. Select either “Yes, I want to participate in the program.” or “No, I don’t want to participate in the program.” and then click “OK”. For details, see “6-3. Participating in the Quality Improvement Program” (page 48).

3. If using in a multi-monitor environment, select the monitor by following the messages displayed on the screen.

4. Select the Calibration Mode to adjust.

The monitor’s Calibration Mode will automatically change.

5. Click “Adjust”.



6. When analog signals are input, execute an automatic adjustment for the monitor

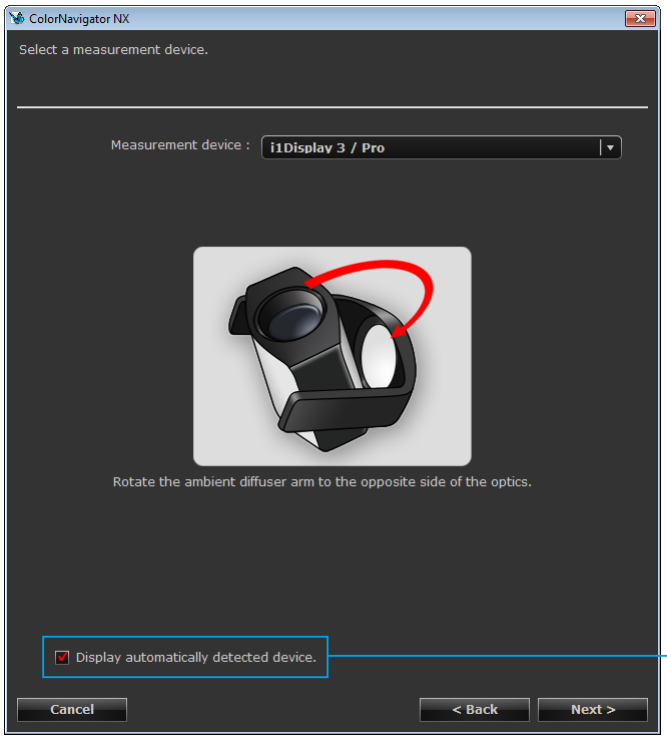
Follow the software instructions and click the “Auto adjust” button on the monitor.

After automatic adjustment is completed, click “Next”.

7. Select a measurement device

Follow the software instructions and select a measurement device. The operation method is displayed according to the measurement device for use. Initialize the measurement device if necessary.

Initialization takes a few seconds.



When the check box is unchecked, all the measurement devices listed in "2-1. System Requirements" (page 11) are displayed in the pull-down menu.

Attention

- Be sure that light does not seep through to the sensor of the measurement device during initialization. Precise adjustment results cannot be obtained if light is detected during the initialization process.
- To use basICColor DISCUS, Klein K-10, Photo Research PR-655 / PR-680, or Konica Minolta CA-210, CA-310, CS-1000, CS-1000A, CS-2000, CS-2000A, or CS-200 or Photo Research PR-655 / PR-680, uncheck the "Display automatically detected device." check box.
- If using the Klein K-10 measurement device, the compensation function of the device can be used. Select "K-10" to display the "Compensation function of the measurement device" menu. Then select the compensation table to use from the pull-down menu. Note that when Klein K-10 is used, the compensation table of ColorNavigator NX will be disabled.
- When adjusting a monitor using a built-in calibration sensor with the correlation result applied, select the name of the measurement device from "Reference device" in the measurement device selection window when performing adjustment.

Note

- When X-Rite i1Pro / Pro2 / Monitor is used and the measurement device has been calibrated to comply with XRGA, select "i1Pro / Pro2 / Monitor (XRGA)".

After completing the selection, click "Next".

8. Proceed monitor adjustment

The measurement window appears on the screen.

Tilt the LCD panel up slightly and attach the measurement device to the measurement window.

(Refer to the user's manual of the measurement device for the attachment procedure.)

Follow the software instructions to start monitor adjustment. The operation method is displayed according to the measurement device for use.

When monitor adjustment is started, the measurement pattern is displayed and adjustment is automatically performed.

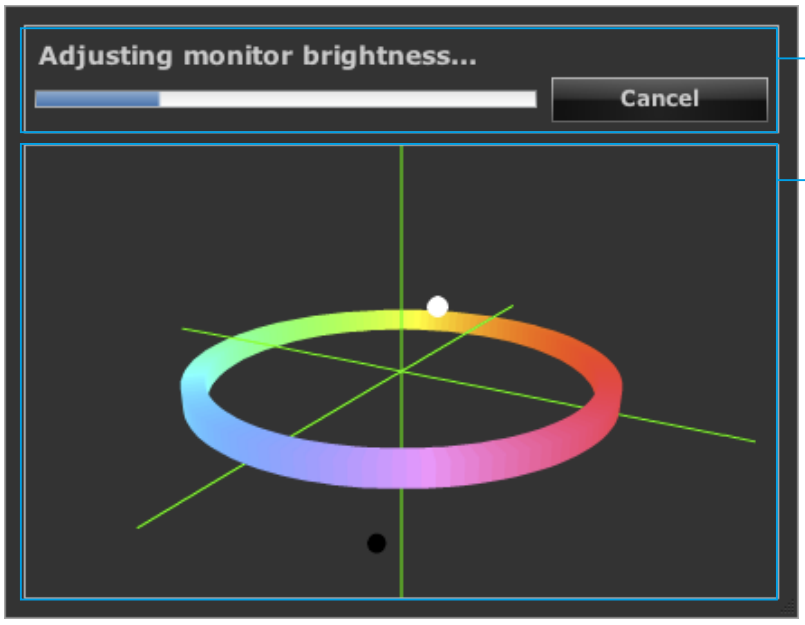
Attention

- The measurement window may not be displayed at the center of the screen depending on the monitor or OS settings. In this case, attach a measurement device around the center of the screen regardless of the position of the measurement window.
- When a built-in calibration sensor is used, the measurement result may be affected by ambient light entering the sensor part. Check the following points before beginning measurement.
  Use a curtain or the like to block any windows so that natural (outside) light does not enter the room.
  Ensure that the lighting in the room does not change during measurement.
  It is recommended that the monitor hood be attached.
- The figure displayed in this window depends on the type of measurement device connected to the computer.

Note

- Monitors equipped with built-in correction sensor measure the white point using the built-in correction sensor after the monitor adjustment is performed by the measurement device. The measurement results are referred to for the SelfCorrection operation.

Progress bars are displayed on the right-bottom corner while adjustment is in progress.

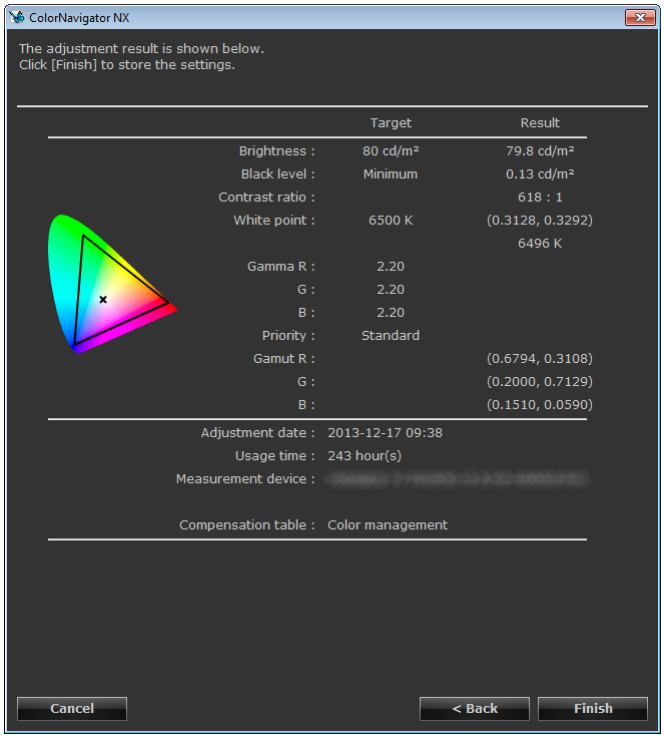


Message display area:
Instructions or any software messages will be displayed while the adjustment is in progress.

Adjustment status display area:
The present adjustment status is plotted in the chart. You can change the view using the mouse cursor.

9. Confirm the result

After completing the monitor adjustment, confirm the adjustment result displayed.



10. Click “Finish” to quit the adjustment

● To edit the adjustment target

Calibration Mode adjustment targets are edited on a dedicated screen.

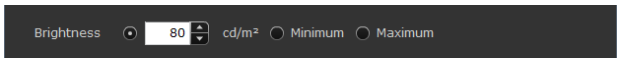
1. Open the main window

2. Select the Calibration Mode to edit the adjustment taregt.

3. Click “Edit”

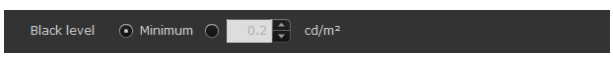
The screen image appears. Specify brightness, black level, white point, gamma, the gamma adjustment method (priority), and color gamut.

● Brightness



Set the brightness when displaying white color.

● Black Level



Set the brightness of black (black level). Specify “Minimum” or a value in units of cd/m^2.
Recommended:Minimum

White Point

Set the white point

Attention

- When you set the target white point by color coordinates, assign the target between 0.24 and 0.45 for x-coordinate and y-coordinate.

Gamma

Load an LUT file and set the gamma, or export the set gamma to an LUT file.

Set the gamma and priority. For “LUT” and “L*”, see “Chapter 7 Glossary” (page 50).

Specify whether to put the priority on Gray balance in “Priority”.

When loading the LUT file

It is necessary to prepare a CSV file in which 256 numeric values are recorded (1 value per line). The following shows the format.

- The file extension is CSV.
- Records one numeric value per line.
- Records 256 numeric values.
- Records real numbers greater than “0”.
- The 256th value should be the highest in the record.

Priority

Gray balance: The monitor is adjusted so that the chromaticity of the middle tone area equals the white point.
Standard: The gray balance is adjusted while maintaining the contrast (Recommended).
Contrast: Monitor is adjusted so that the contrast is set to maximum.

Attention

- When “Priority” is set to “Gray balance”, all points on the grayscale are adjusted toward the target white point. Select this when correcting with priority on the whiteness in the middle tone area. However, the following limitations apply when “Gray balance” is selected.
  - The contrast might decrease.
  - The color gamut might be narrower than adjustment with the priority on “Contrast”.
  - “Gray balance” and “Standard” cannot be adjusted with Spyder3, Spyder4, Spyder5, EX1, EX2 and EX3.

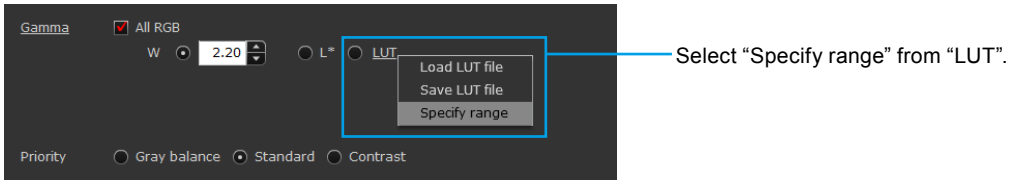
Range Extension

Depending on the external device, the black and white video level of signals may be limited. If signals are displayed on the monitor with the limitation in effect, black will appear pale and white dull, thereby lowering the contrast. Such signals can be displayed in the monitor's native contrast ratio by extending the output range. While the monitor's range extension function extends the output range of all color modes for display, ColorNavigator NX allows only the output range of the target CAL mode to be extended for display.

Attention

- Turn off the monitor's range extension function to use the range extension function of the ColorNavigator NX.
- When the monitor's range extension function is turned on, the range setting window is not displayed.

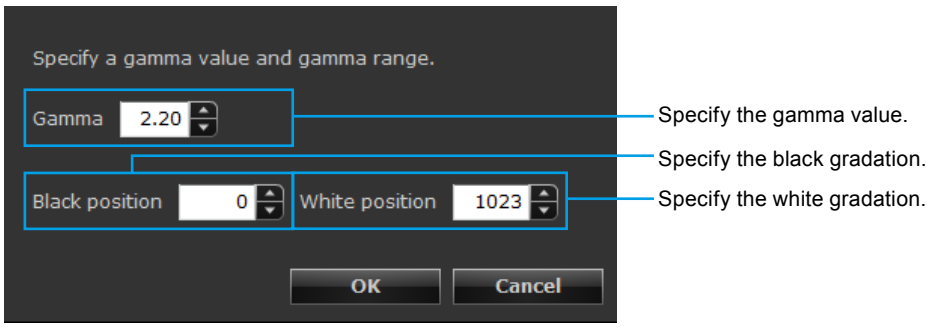
1. Click the "LUT" and select "Specify range."



The range setting window is displayed.

2. Specify the gamma value and gamma range.

Specify the gradation to set as black and white in 10 bits (0 to 1023) for the gamma range.

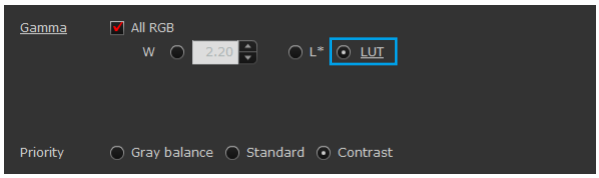


Note

- If converting 8-bit (0 - 255) gradation values to 10-bit, multiply the value by four.

3. After completing the setting, click "OK".

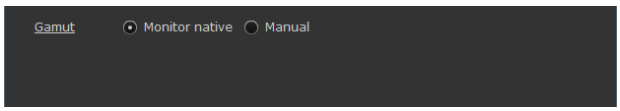
"LUT" is selected for "Gamma."



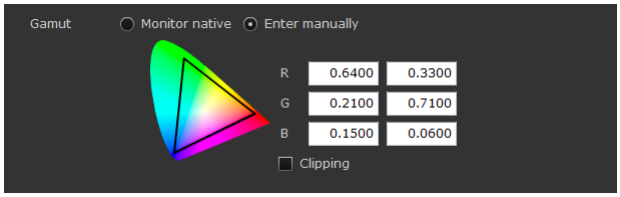
Gamut

Set the color reproduction area (color gamut).

Recommended : Monitor native



If selecting “Enter manually,” input the color coordinate values for RGB.



Note

- For details on clipping, refer to the user’s manual of the monitor.

After completing the setting, click “OK”.

To set standard values as adjustment targets

Values as defined in standards such as Adobe® RGB can be set to adjustment targets.

1. Open the main window

2. Select the Calibration Mode to edit the adjustment target

3. Click “Edit”

The adjustment target editing window appears.

4. Click “Preset targets” and select the standard to set.

The adjustment target is updated to the selected standard value.

Note

- A standard value can be set individually for the white point, gamma, and color gamut. Click “White Point”, “Gamma”, and “Gamut” in the editing window and select the standard to set.

● To import the adjustment target file

A created adjustment target file can be loaded.

1. Open the main window

2. Select the Calibration Mode to edit the adjustment target

3. Click “Edit”

The adjustment target editing window appears.

4. Click “Import”

The “Open” window appears.

5. Select a file and click “Open”

The file is imported and the adjustment target is updated.

Note

- The extension of the target file that can be read is “cntarget”.

● To export the adjustment target file

The created adjustment targets can be exported to file and used as adjustment targets in other Calibration Modes and the Calibration Modes of other monitors.

1. Open the main window

2. Select the Calibration Mode to export

3. Click “Edit”

The adjustment target editing window appears.

4. Click “Export”

The "Save" window appears.

5. Set the file name and click “Save”

The configuration information file is saved.

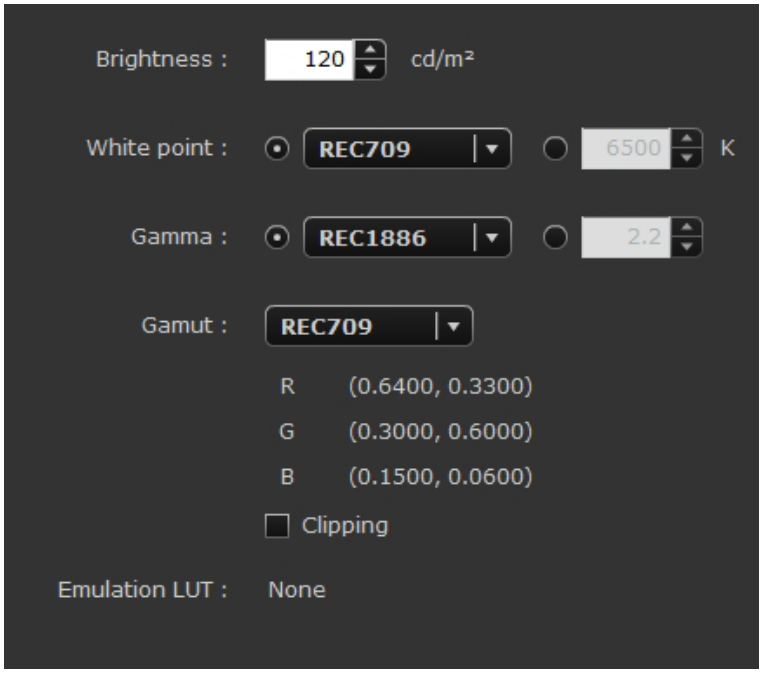
Note

- The extension of the target file to be saved is "cntarget",

3-3. Adjusting the Standard Mode

● To adjust brightness, white point, gamma and so on

Use the main window to adjust items such as brightness, white point, and gamma for Standard Mode. For details on items that can be adjusted, see the User's Manual of the monitor.



Attention

- If adjusting a Standard Mode using ColorNavigator NX, do not adjust the monitor using the control buttons on the monitor.

Note

- The monitor brightness and gamut gradually alter over time. Referring to the next section, adjust using a measurement device.

● Adjusting Using a Measurement Device

Measure the monitor's color characteristic and then set the measurement result to the monitor. By this, the following corrections are made.

- The white point is adjusted so that it is as close as possible to the standard value.
- In modes that adjust the color gamut, such as an sRGB, the gamut values are adjusted so that they are close to each standard value.
- In the monitors that adjust the brightness in units of cd/m^2, the brightness information is also updated during execution of this function.

1. Open the main window

2. Select "Standard Mode calibration" from "Advanced"

3. Select the measurement device

Initialize the reference measurement device according to the instructions. The operation method is displayed according to the measurement device for use. Follow the instructions to operate the device.

Initialization takes a few seconds.

When the initialization has completed, the measurement window appears.

4. Measure the monitor

Follow the window instructions to measure the monitor. The measurement is performed automatically. When the measurement has completed, a message appears.

Note

- To reset the monitor gamut and brightness to the default setting, select "Standard Mode calibration" - "Reset to default" from "Advanced" in the main window. Over-time changes of the monitor are not put into account.

3-4. Specifying Film Emulation Data

Emulation data can be created from the characteristic file (3D-LUT file) of a motion picture film provided for color grading systems, and be applied to and displayed on a monitor.

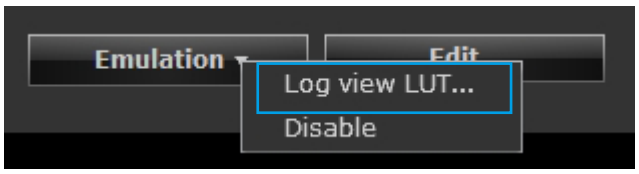
Attention

- This function is not available in the ColorEdge CG245W, CGF275W, CG246, and CX series monitor.
- For CG276, you can set the data to one Calibration Mode only.
- The extensions of the 3D-LUT file that can be read are as follows.
  *.3dl, *.cub

1. Open the main window

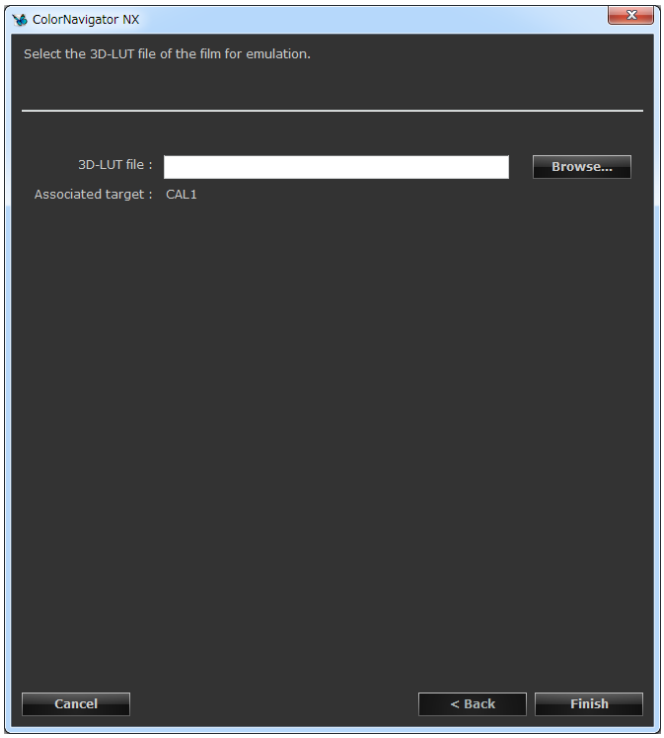
2. Click “Emulation” - “LogView LUT” in the detailed display area

The 3D-LUT file selection screen appears.



3. Select the 3D-LUT file to emulate.

Click “Browse” and then select the 3D-LUT file to emulate.



4. Click “Next”

The emulation data creation starts.

Note

- This cannot be set for unadjusted Calibration Modes.
- To disable the setting, select “Emulation” - “Disable”.

3-5. Periodic Adjustment

When used over a period of time, monitors gradually dim (lose brightness) and the color changes as time passes and thereby cannot correctly display colors. Therefore monitors must be periodically returned to the original state, which means they must be readjusted. This can be set using ColorNavigator NX.

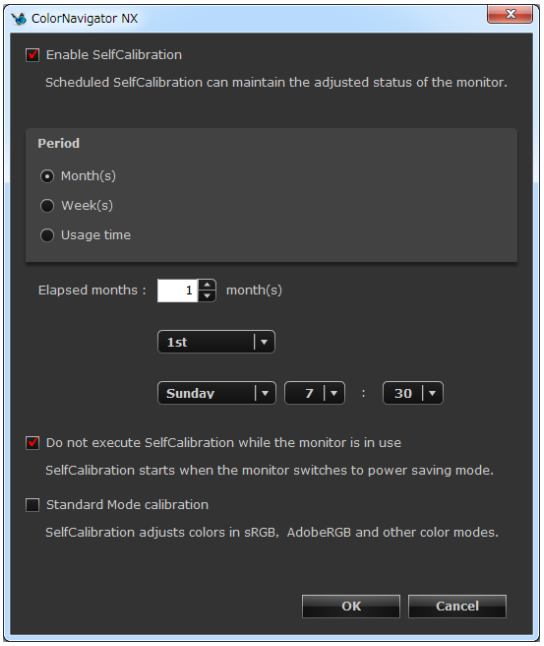
Attention

- Before performing SelfCorrection, 60 minutes or more are required to stabilize the monitor.

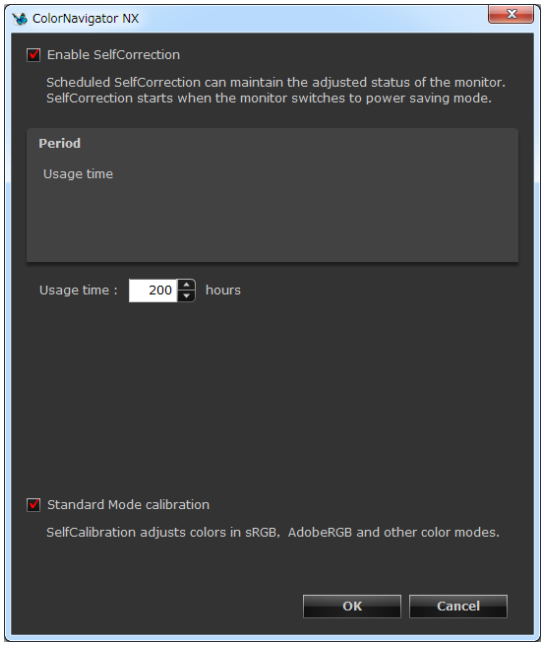
● To set SelfCalibration / SelfCorrection

1. Select “SelfCalibration settings (for CG series)” or “SelfCorrection settings (for CX series)” from “Advanced” in the main window.

The Settings window is displayed.



SelfCalibration setting window



SelfCorrection setting window

Note

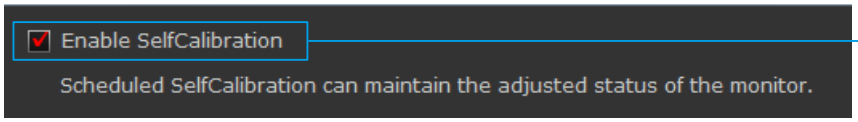
- Content displayed may differ depending on the type of monitor used.

2. Set the schedule

Set the schedule and timing at which SelfCalibration / SelfCorrection is executed.

● SelfCalibration

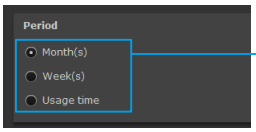
1. Enable the SelfCalibration function.



2. Set the “Period” / “Frequency” at which SelfCalibration is executed.

Attention

- Available settings vary depending on the model of the monitor used.



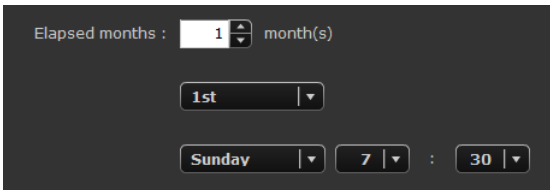
Select from “Month(s)”, “Week(s)” or “Usage time”.

Select from “Quarterly”, “Biannually”, “Annually”, “Monthly”, “Weekly”, “Daily” or “Usage Time”.

3. Set the interval between the completed SelfCalibration and the next execution or the time for executing.

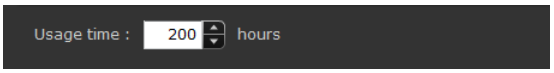
Attention

- The setting details differ depending on the setting made for “Period” / “Frequency” in step 2.



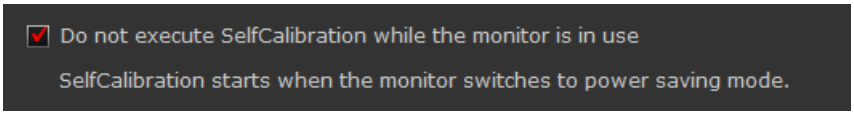
Period	Setting Details
Month(s)	Set the interval, week, day of the week, and time for executing.
Week(s)	Set the interval, day of the week, and time for executing.

Frequency	Setting Details
Quarterly, Biannually, Annually	Set the month, week, day of the week, and time for executing.
Monthly	Set the week, day of the week, and time for executing.
Weekly	Set the day of the week and time for executing.
Daily	Set the time for executing.



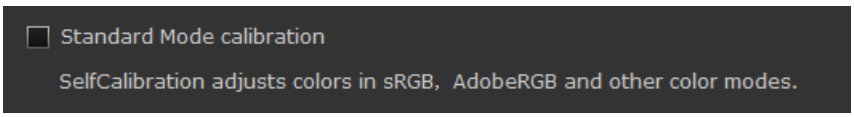
Period / Frequency	Setting Details
Usage Time / Frequency	Set the monitor usage time until the next execution.

4. Set the execution timing for SelfCalibration.



- Check the check box to execute SelfCalibration when the monitor enters power saving mode or when the monitor is turned off.
- Uncheck the check box to execute SelfCalibration according to the set schedule regardless of the current usage state of the monitor.

5. Set whether or not to execute Standard Mode calibration when SelfCalibration is executed.

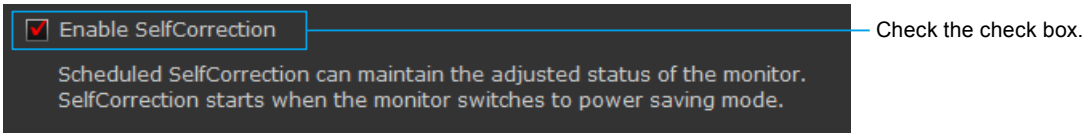


- Check the check box to execute Standard Mode calibration (page 26) when SelfCalibration is executed.

6. After completing the setting, click “OK”.

SelfCorrection

1. Enable the SelfCorrection function.



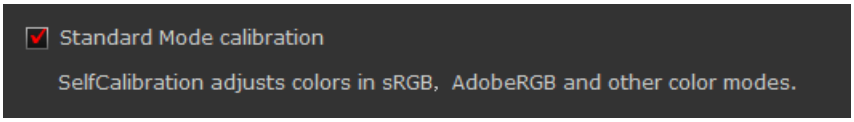
2. Set the interval between the completed SelfCorrection and the next execution.

Only “Usage time” can be set as the “Period” / “Frequency” for executing SelfCorrection. In addition, the execution timing of SelfCorrection is when the monitor enters power saving mode or when the monitor is turned off.

3. Set whether or not to execute Standard Mode calibration when SelfCorrection is executed.

Attention

- This setting is not displayed for monitors that do not support “Standard Mode calibration”.



- Check the check box to execute Standard Mode calibration (page 26) when SelfCorrection is executed.

4. After completing the setting, click “OK”.

Attention

- Use SelfCalibration / SelfCorrection in order to sustain ColorNavigator NX adjustments.
- The color profile of the system is not updated when SelfCalibration / SelfCorrection is executed. When the color profile needs to be updated, use ColorNavigator NX to make the adjustments.
- The timer (page 32) operation is unaffected by SelfCalibration / SelfCorrection schedule.

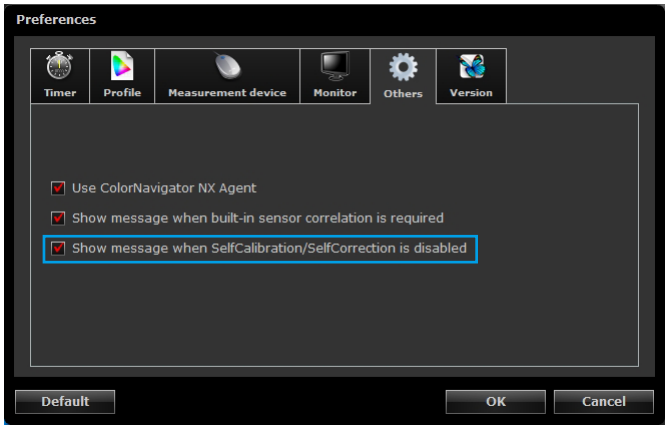
● To set whether to display message SelfCalibration / SelfCorrection warning

Check the SelfCalibration / SelfCorrection setting when closing the main window. The warning message can be displayed when SelfCalibration / SelfCorrection is disabled.

1. Open the main window

2. Click “Preferences”

3. Click “Others” in the toolbar



4. When the “Show message when SelfCalibration / SelfCorrection is disabled” check box is selected, the status of the SelfCalibration / SelfCorrection setting is checked during closure of the main window

The check box is checked by default.

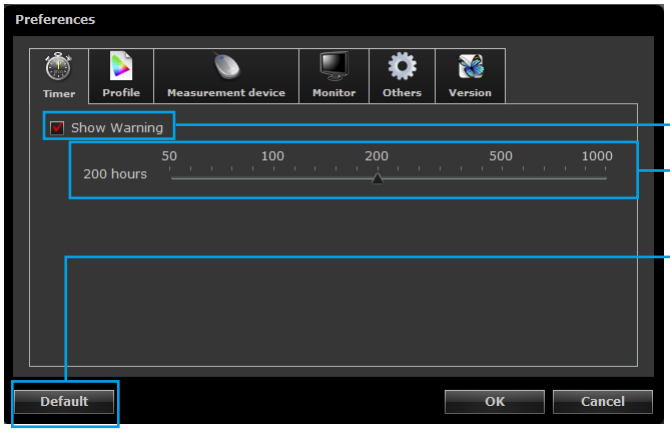
● Setting the Timer

Setting a timer displays messages on the screen when the specified monitor usage time has elapsed after the monitor adjustment.

1. Open the main window

2. Click “Preferences”

3. Click “Timer” in the toolbar



Check the check box to activate timer.

Set the interval for the timer.

Check the “Show Warning” check box, uncheck the “Use power indicator of the monitor” check box, and set the timer to 200 hours. Also, return other settings to the defaults.

Note

- If the timer is set at a value larger than that specified in the steps of “To set SelfCalibration / SelfCorrection” (page 28), the timer will not work.

3-6. Displaying Test Patterns

The test pattern to visually check the adjustment status can be displayed. It allows you to check that grayscale images do not contain any color as well as that the tone curve is displayed correctly.

Attention

- The gamma confirmation can be executed during the operation at the recommended resolution of the monitor. About the recommended resolution of the monitor, see the user’s manual of the monitor.
- Depending on monitor and OS settings, test patterns may be displayed on only the right or left side of the screen. This will not affect adjustment or validation of the monitor.

1. Open the main window

2. Select “Test pattern” from “Advanced”

The test pattern appears. When you click on the test pattern, it closes.

3-7. Correcting a Measurement Device

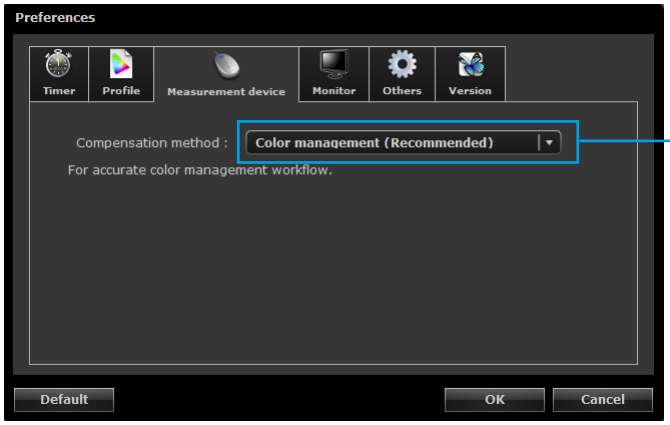
● Correcting a Measurement Value

The compensation method for the measurement device can be set. Set the method in Preferences.

1. Open the main window

2. Click “Preferences”

3. Click “Measurement Device” in the toolbar



Select a method to compensate the measurement value

4. Select a method to compensate the measurement value from the “Compensation table” pull-down menu.

Setting	Function
Color management (Recommended)	For accurate color management workflow. Suitable for single monitor using.
Multiple monitor matching	For color matching among various monitors.
No compensation	For other company’s monitor validation tool. The sensor measurement value is used as it is. Wide gamut monitors may not be measured correctly depending on your sensor.

Attention

- Be careful of the following points when using the built-in calibration sensor.
  - To select the method for compensating the measurement value, correlation with the reference measurement device is necessary. For more information, see the next page.
  - When correlation with the measurement device is not performed, the compensation method is fixed at “Color management (Recommended)” despite the results of the compensation method selected.

● Correlate with the Reference Measurement Device

Correlation of the measurement results between the reference measurement device and the built-in calibration sensor can be performed.

Attention

- When the USB of the monitor comes loose during software operation, turn off the main power of the monitor and then turn the power back on.
- Correlation is not supported by the built-in correction sensor.

Note

- Correlation can be performed per each type of measurement device.

1. Open the main window

2. Select “Sensor correlation” from “Advanced”

The measurement device selection window appears.

3. Select the measurement device

Select a reference measurement device from the list. Initialize the measurement device if necessary. After selecting the target creation method, click “Next”.

Attention

- Be sure that light does not seep through to the sensor of the measurement device during initialization. Precise adjustment results cannot be obtained if light is detected during the initialization process.

Note

- When X-Rite i1Pro / Pro2 / Monitor is used and the measurement device has been calibrated to comply with XRGA, select “i1Pro / Pro2 / Monitor (XRGA)”.
- When Klein K-10, Photo Research PR-655 / PR-680, or Konica Minolta CA-210 / CA-310 / CS-1000 / CS-1000A /CS-2000 / CS-2000A is used, the correlation method can be selected. When “Accuracy” is selected, processing time is longer because the middle tone is measured.

4. Proceed correlation

The measurement window appears on the screen.

Tilt the LCD panel up slightly and attach the reference measurement device to the measurement window. (Refer

to the user’s manual of the measurement device for the attachment procedure.)

Proceed with correlation in accordance with the instruction on the message window. The operation method is displayed according to the measurement device for use.

When correlation is started, the measurement pattern is displayed and correlation is automatically performed.

Attention

- The measurement window may not be displayed at the center of the screen depending on the monitor or OS settings. In this case, attach a measurement device around the center of the screen regardless of the position of the measurement window.
- The correlation result may be affected by ambient light entering the sensor part of the built-in calibration sensor. Check the following points before beginning correlation.
  Use a curtain or the like to block any windows so that natural (outside) light does not enter the room.
  Ensure that the lighting in the room does not change during correlation.
  It is recommended that the monitor hood be attached.
- The figure displayed in this window depends on the type of measurement device connected to the computer.

5. Confirm the result

After completing the correlation, the RGB value of the measured color patch and the measurement results of the reference measurement device and the correlated measurement device are displayed.

Note

- When using another measurement device as a reference for correlation, or when performing the correlation again, click “Back” to display setting window.

6. Click “Finish”

The correlation of the built-in calibration sensor is completed.

Attention

- If there is any problem with the correlation results, an error message is displayed. Follow the message to perform the correlation again.
- When adjusting a monitor using a built-in calibration sensor with the correlation result applied, select the name of the measurement device from “Reference device” in the measurement device selection window when performing adjustment.

Note

- The correlation result is added to the measurement results of the built-in calibration sensor. Therefore, adjustment of the monitor after the correlation is recommended.

● To set how to display correlation warning at main window closure

Check the status of the correlation of the built-in calibration sensor when closing the main window. The warning message can be displayed when the measurement results between the reference measurement device and the built-in calibration sensor are not correlated.

Attention

- This function is available for monitors with built-in calibration sensor.

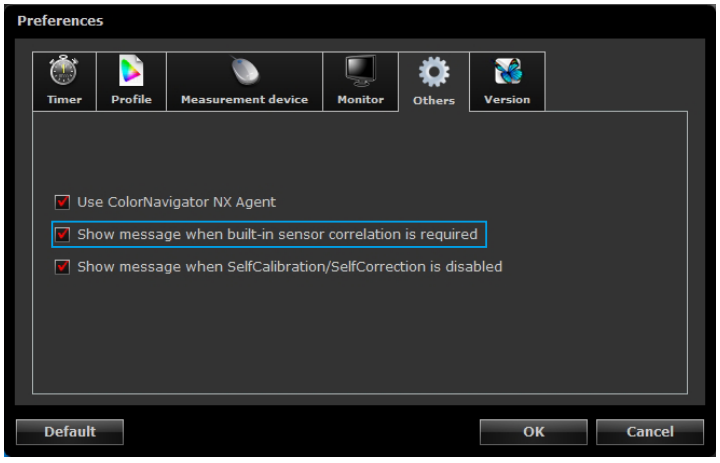
Note

- See “Correlate with the Reference Measurement Device” (page 33) for the correlation for the built-in calibration sensor.

1. Open the main window

2. Click “Preferences”

3. Click “Others” in the toolbar



4. When the “Show message when built-in sensor correlation is required” check box is selected, the correlation status of the built-in calibration sensor is checked at the main window closure

The check box is checked by default.

3-8. Using ColorNavigator NX Agent

ColorNavigator NX Agent is a resident function within the system that allows you to use the ColorNavigator NX functions without displaying the main window.

● Availabel Functions

- Changing coloe mode
- Displaying main window

● Active Icon

The icon is displayed in the notification area (Windows), the dock (Mac OS X), or in the panel (Linux) while ColorNavigator NX Agent is in active.
The color of the icon changes according to the operating status.

Normal		• ColorNavigator NX Agent is running normally. - ColorNavigator NX can be started up. - Color mode can be changed.
Warning		• Unadjusted color mode is selected. - ColorNavigator NX needs to be start up and readjusted.
Quiescent		• ColorNavigator NX is running. - ColorNavigator NX Agent cannot be operated until quitting ColorNavigator NX.

● Set ColorNavigator NX Agent During System Start Up

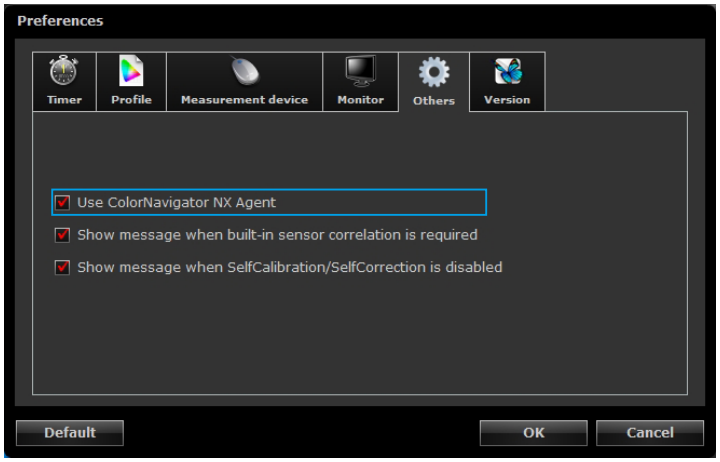
By default, when the system starts up, ColorNavigator NX Agent also starts running as resident software. Set the startup of ColorNavigator NX Agent according to the following procedure.

1. Open the main window

2. Click “Preferences”

The “Preferences” dialog box appears.

3. Click “Others” in the toolbar



4. Check the “Use ColorNavigator NX Agent” check box to run ColorNavigator NX Agent as resident software from system startup

The check box is checked by default.

● Changing Color Mode

By changing color mode you can change the setting of the monitor and register the profile to the system easily.

1. Open the setting menu

Macintosh

Right- click ColorNavigator NX icon on Dock.

Windows

Right- click ColorNavigator NX icon in the notification area.

Linux

Click ColorNavigator NX icon in the panel.

2. Select the color mode to set

When connecting multiple monitors that are adjustable, select the monitor of which color mode to be changed and then select the color mode.

Selecting a color mode changes the setting of the monitor and registers a profile to the system.

Attention

- Disabled colo rmode is not shown.
- Start ColorNavigator NX to perform readjustment or validation.

● Starting ColorNavigator NX

ColorNavigator NX can be started from ColorNavigator NX Agent.

1. Open the setting menu

Macintosh

Right- click ColorNavigator NX icon on Dock.

Windows

Right- click ColorNavigator NX icon in the notification area.

Linux

Click ColorNavigator NX icon in the panel.

2. Select “Start ColorNavigator NX”

ColorNavigator NX starts up.

Attention

- ColorNavigator NX Agent cannot be operated while running ColorNavigator NX.

Chapter 4 Managing the Monitor

4-1. Sharing the Monitor Setting

Share monitor settings with other monitors using a file.

Attention

- Settings can be shared only among the same model. Settings cannot be shared between different models.

Note

- Monitor settings that can be shared are color mode settings, the SelfCalibration/SelfCorrection schedule, and the key lock setting.

● Import

Load monitor settings from a file and apply them to the monitor.

1. Open the main window

2. Select “Importing Monitor Setting” from “Advanced”

The “Open” window appears.

3. Select a file and click “Open”

The confirmation message appears. The file is imported and the adjustment target is updated.

Note

- The extension of the file that can be read is “.cnmonitor”.

● Export

Export monitor settings to a file and share with other monitors.

1. Open the main window

2. Select “Export Monitor Setting” from “Advanced”

The “Save” window appears.

3. Set the file name and click “Save”

The file is saved.

Note

- The extension of the file to be saved is “(the name of the product you are using).cnmonitor”.

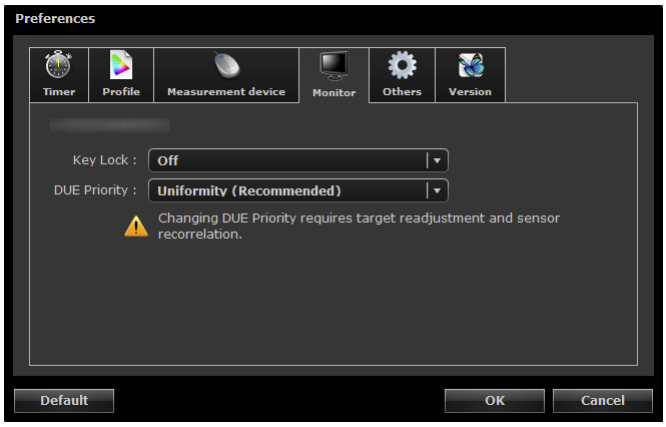
4-2. Changing the Settings of the Monitor

The settings of the currently being used monitor can be changed from ColorNavigator NX.

1. Open the main window

2. Click “Preferences”

3. Click “Monitor” in the toolbar



4. Set each function

Key Lock

The control buttons of the monitor can be locked / unlocked.

Setting	Buttons that can be locked
Menu	Adjustment menu button
All	All buttons excluding ⏻
Off	None (All buttons are enabled)

DUE Priority

Depending on your monitor type, priority of the Digital Uniformity Equalizer (DUE), which reduces unevenness in display, can be changed.

Setting	Function
Uniformity	Prioritize reduction of uneven display.
Brightness	Prioritize high brightness and right contrast ratio.

Attention

- After changing a setting of DUE Priority, adjust the target and execute sensor correlation again.
- Only functions supported by your monitor can be set. If a function is not supported, “Not supported” is displayed.

4-3. Setting Management Information to the Monitor

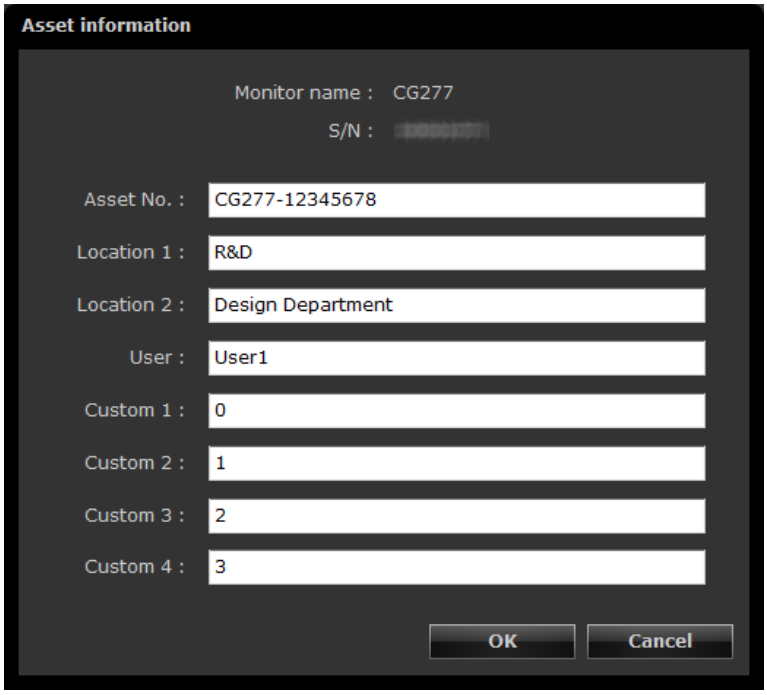
● Setting the Asset Information

The set information is saved to the monitor. Therefore the same asset information is displayed even when displayed using a ColorNavigator NX installed on a different computer.

1. Open the main window

2. Click “Management” - “Asset”

The “Asset information” screen appears.



3. Set the asset information

4. After completing the setting, click “OK”

● Configuring ColorNavigator Network Settings

Import a connection file provided by the ColorNavigator Network to configure settings that allow the monitor to be managed from the ColorNavigator Network.

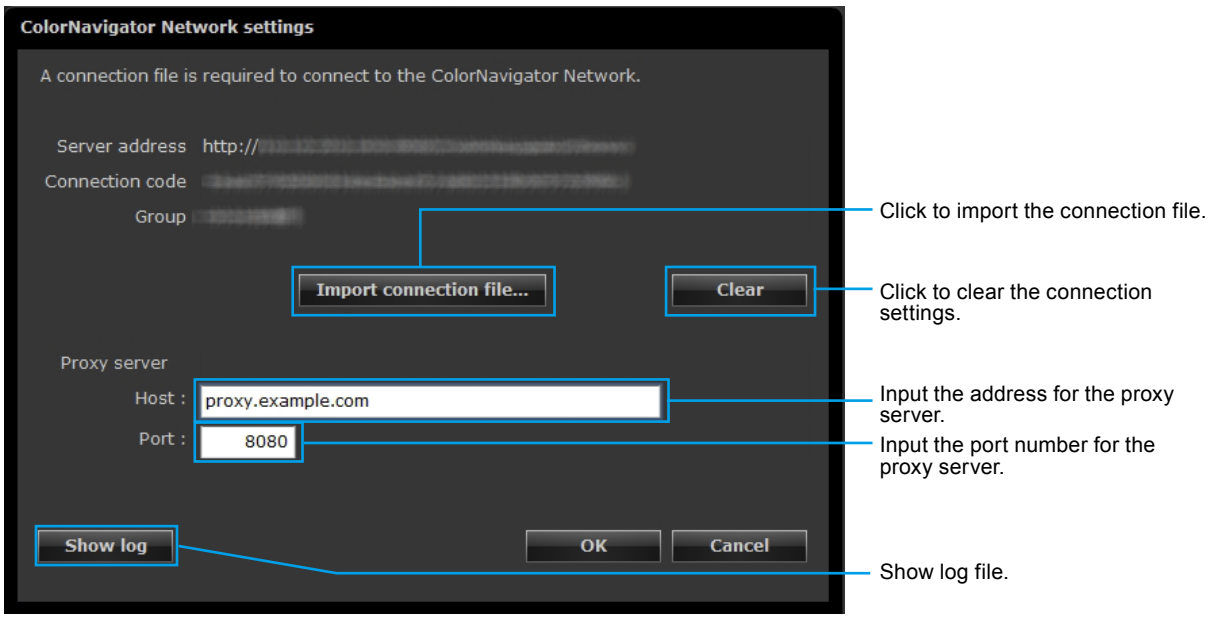
Note

- Configure ColorNavigator Network settings according to the instructions provided by your system administrator.

1. Open the main window

2. Click “ColorNavigator Network” from “Management”

The “ColorNavigator Network Settings“ screen appears.



Note

- Please consult your system administrator for the network settings.

3. Click “OK” to exit the setting

ColorNavigator Network settings are updated after the main window is closed.

Attention

- Enabling the ColorNavigator NX Agent is necessary to operate ColorNavigator Network. For details, refer to “Set ColorNavigator NX Agent During System Start Up” (page 37).

4-4. Managing the Color Mode

● To change the name of the mode

Change the names of color modes.

1. Open the main window

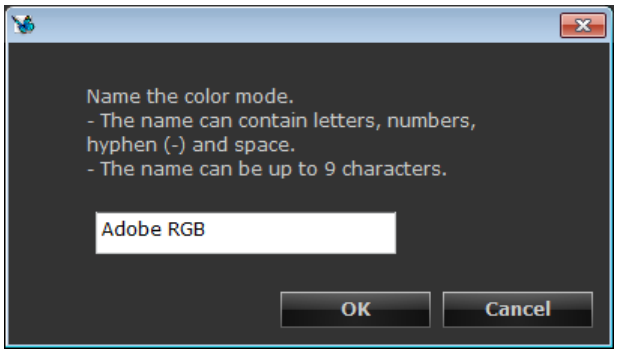
2. Select the mode to change its name

3. Right-click on the list, select “Rename”

Note

• When using Macintosh, hold down the control key and click the mouse.

4. Set the mode name



5. After completing the setting, click “OK”

Note

• To restore the name to the default, see “4-5. Resetting to Default” (page 45).

● To change the type of color mode

Standard Mode and Calibration Mode can be switched between.

Attention

- This function is not available in CG245W, CG246, CG275W, CG276, CX240, or CX270.
- When Standard Mode is switched to Calibration Mode, Standard Mode settings will be lost. Returning to Standard Mode again will not restore these settings.
- When Calibration Mode is switched to Standard Mode, settings will be lost. Returning to Calibration Mode again will not restore these adjustment results.

1. Open the main window

2. Select the mode to change its type

3. Right-click on the list, select “Change type”

The confirmation message appears.

Note

- When using Macintosh, hold down the control key and click the mouse.

4. Click “OK”

● To disable unused color modes

Only the modes currently being set can be selected. This setting is suitable when you are using limited display modes and you do not want to change the customized display state.

1. Open the main window

2. Select the color mode to disable

3. Right-click on the list, select “Disable”

Note

- When using Macintosh, hold down the control key and click the mouse.
- A disabled color mode can be selected and displayed using ColorNavigator NX, but cannot be adjusted.

● Enable a mode that was disabled

1. Open the main window

2. Select the color mode to enable

3. Right-click on the list, select “Enable”

4-5. Resetting to Default

Reset the setting for all color modes to the default setting.

1. Open the main window

2. Select “Import target” from “Advanced”

The "Open" window appears.

3. Select a file and click “Open”

Select a file named “Default_MonitorConfiguration.(the name of the product you are using).cnmonitor” and click “Open.” A confirmation message is displayed. The file is imported and the adjustment target is resetted to the default setting.

Chapter 5 Troubleshooting

If a problem still remains after applying the suggested remedies, contact your local EIZO representative.

Problem	Possible cause and remedy
1. Software cannot be installed.	• Check the system requirements of ColorNavigator NX. • Check whether the system meets the requirements for operation described in “2-1. System Requirements” (page 11). • ColorNavigator NX cannot be installed simultaneously with ColorNavigator. Uninstall ColorNavigator.
2. Monitor cannot be recognized / software cannot be started.	• Check whether the monitor meets the requirements for operation described in “2-1. System Requirements” (page 11). • If you use a ColorEdge series monitor that does not meet the requirements for operation, use the ColorNavigator. • Check whether the USB cables are connected properly. • When the monitor is equipped with multiple USB upstream ports, use the port that is associated with the input signal to be displayed. For details, refer to the monitor User’s Manual. • Check whether the ColorNavigator license is certified (see “1-2. About ColorNavigator License” (page 5)).
3. The LUT gamma file cannot be loaded.	• Check whether the file to be loaded meets the format specified in “When loading the LUT file” (page 21).
4. A message saying “A profile is not applied to your operating system.” appears.	• Standard Mode calibration may have not been executed although Standard Mode is selected. - Perform Standard Mode calibration (page 26). • Unadjusted Calibration color mode may be selected. - Adjust selected Calibration Mode.

Chapter 6 Reference

6-1. Showing the User's Manual

1. Open the main window

2. Select "User's manual" from "Help"

The user's manual (this document) appears.

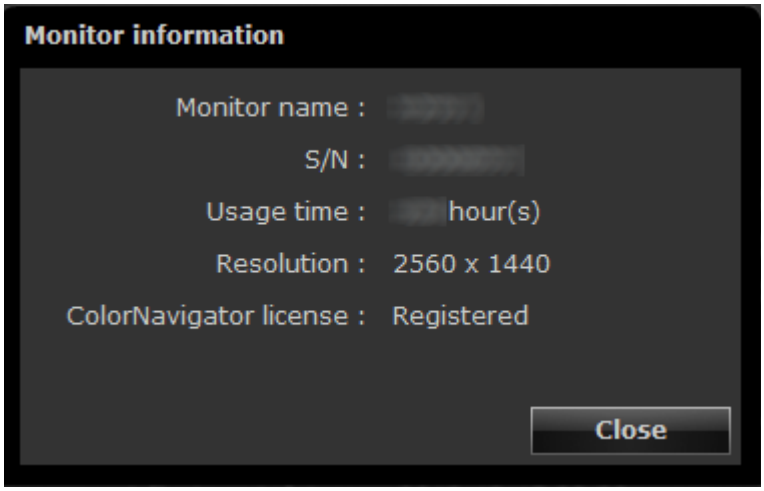
6-2. Showing Monitor Information

1. Open the main window

2. Select "Monitor information" from "Help"

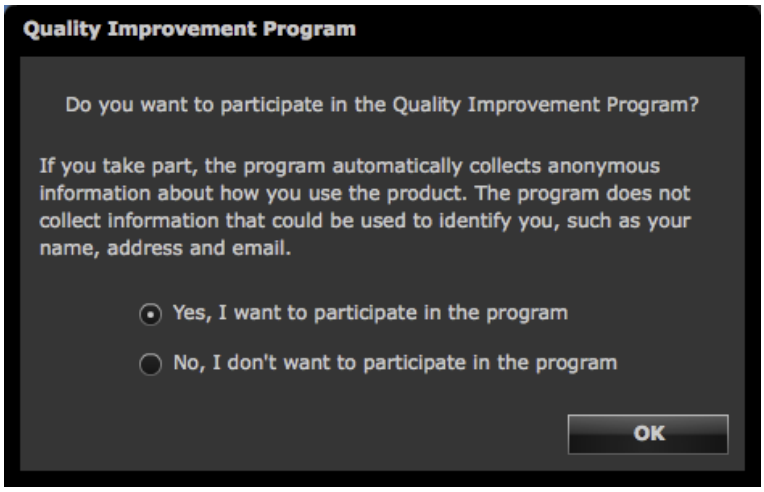
The monitor information window appears.

Example:



6-3. Participating in the Quality Improvement Program

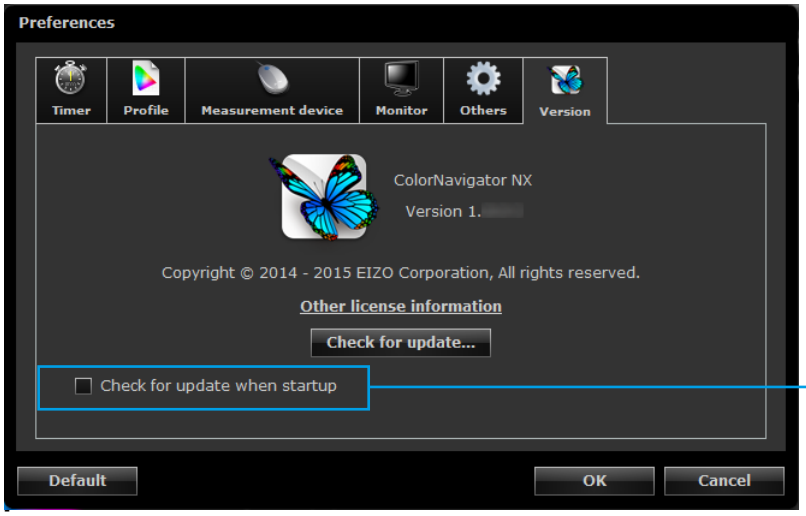
We would appreciate your understanding and participation in the Quality Improvement Program to improve the ColorNavigator NX software. The program participation dialog box can be displayed by selecting “Quality Improvement Program” from “Help” in the main window. If you participate, the program will automatically collect information about how you use the product. The collected data is anonymous and will not include any information that may lead to your identification.



6-4. Checking the Latest Software

1. Open the main window

2. Select “Version” from “Help”



When the box is checked, the availability of an update is checked during ColorNavigator NX startup.

3. Click “Check for update”

When an update is available, a notification window appears.

Note

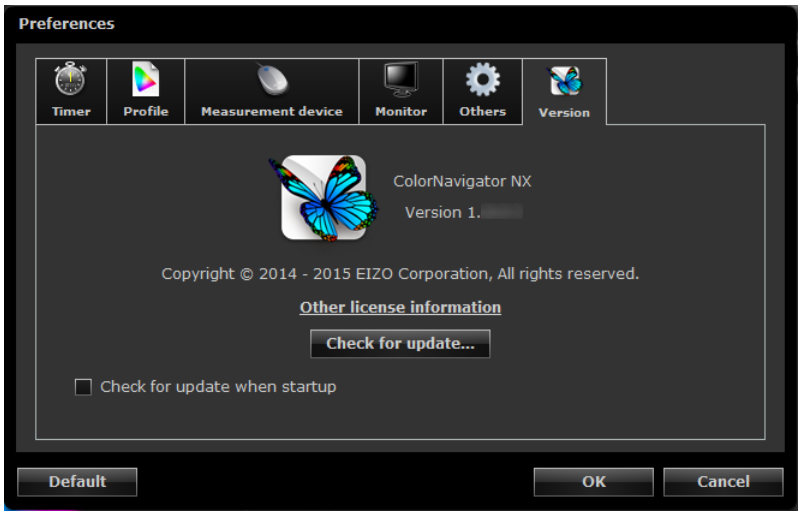
- The PC you are using must be connected to the Internet to update the software.

6-5. Displaying the Version Information

1. Open the main window

2. Select “Version” from “Help”

The version information window appears.



Chapter 7 Glossary

Gain

This is used to adjust each color parameter for red, green and blue. An LCD monitor displays the color by the light passing through the panel color filter. Red, green and blue are the three primary colors. All the colors on the screen are displayed by combining these three colors. The color tone can be changed by adjusting the light intensity (volume) passing through each color's filter.

Gamma

Generally, the relationship that the light intensity values of a monitor change nonlinearly to the input signal level is called "Gamma Characteristic". When the gamma value is low, the middle tone area is displayed brighter, and darker when high. Changes to the gamma value will not affect contrast. A gamma value appropriate for the display content should be selected.

L*

L* is a lightness value based on the CIELUV and CIELAB color spaces. CIELUV and CIELAB are color spaces that describe the relationship between color and human vision, in which L* corresponds to perceived brightness.

LUT (Look up Table)

The gamma characteristic may be represented numerically for example as "Gamma = 2.2". However, a table is used whenever the characteristic cannot be represented in this way. This table is called LUT (Look up Table).
In monitor profiles, the gamma characteristic may be represented either numerically or as an LUT. When creating an adjustment target using ColorNavigator NX, a profile can be loaded. If the selected profile indicates the gamma characteristic as an LUT, "LUT" is displayed.

Resolution

A measurement that defines the clarity with which an image can be represented. It is defined by the number of pixels which can be displayed per line multiplied by the number of lines on the screen such as "1024 x 768". The more number of pixels, the more information the image has.

sRGB (Standard RGB)

International standard for color reproduction and color space among peripheral devices (such as monitors, printers, digital cameras, scanners). As a form of simple color matching for the Internet, colors can be displayed using tones close to those of the transmission and reception devices.

Temperature

Color Temperature is a method to measure the white color tone, generally indicated in degrees Kelvin. The screen becomes reddish at a low temperature, and bluish at a high temperature, like the flame temperature.
5000 K: Slightly reddish white (usually used in print industry)
6500 K: White called daylight color (suited for displaying photos and web browsing)
9300 K: Slightly bluish white (usually used for television)

XRGA (X-Rite Standards for Graphic Arts)

The calibration standard specified by X-Rite and used for X-Rite's measurement devices. X-Rite i1Pro 2 has been calibrated to comply with XRGA. X-Rite i1Pro / Monitor has not been calibrated to comply with XRGA by default. Ask X-Rite for calibration so that they can calibrate the device to comply with XRGA.

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